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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/830,132	04/23/2004	Steven T. Knight	119481	7427
25944	7590	06/20/2006	EXAMINER	
OLIFF & BERRIDGE, PLC				RAO, SHEELA S
P.O. BOX 19928				ART UNIT
ALEXANDRIA, VA 22320				PAPER NUMBER
				2125

DATE MAILED: 06/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/830,132	KNIGHT ET AL.	
	Examiner Sheela Rao	Art Unit 2125	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) Responsive to communication(s) filed on 23 April 2004.
- 2a) This action is **FINAL**.                            2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-15 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 23 April 2004 is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
  1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 4/23/04.
- 4) Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: \_\_\_\_\_.

### DETAILED ACTION

1. Claims 1-15 are pending and presented for examination.
2. Applicant's submission of references on form PTO-1449, filed April 23, 2004, has been considered. A signed copy of the form is attached.

#### *Priority*

3. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

#### *Claim Objections*

4. Claim1 is objected to because of the following informalities:  
Limitation "f)" concludes with a period, but another limitation follows. Examiner assumes this is the result of a simple typographical error, and examines application as such. Applicant is requested to check the recitation of instant claim 1 and make appropriate corrections as required.

#### *Claim Rejections - 35 USC § 112*

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:  
The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
6. Claims 12 and 15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 12 is directed to the optimizing of a component having a design; however, it is not clear whether it is the component or the design being optimized.

Claim 15 includes a computer system to carry out the method. By analogy with a single means claim, the limitation of claim 15 encompasses any and all manner of performing the claimed action to achieve a desired result. Therefore, the claimed language has no metes and bounds.

***Claim Rejections - 35 USC § 101***

7. 35 U.S.C. §101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

8. Claim 14 is rejected under 35 U.S.C. § 101 because the claimed invention is directed to non-statutory subject matter. Claim 14 appears to be directed to "a computer program" per se. There is no description for "computer program product" that delineates any particulars thereof, note page 10, lines 5-9 of the instant disclosure. Since the computer program is not recited as being stored on an appropriate (i.e., storage-type) "computer readable medium," claim 14 is directed to nonstatutory subject matter under 35 USC §101.

***Claim Rejections - 35 USC § 102***

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. §102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. Claims 1-8, and 14-15 are rejected under 35 U.S.C. §102(b) as being anticipated by US Patent No. 6,434,278 B1 to Hashimoto.

The patented invention by Hashimoto teaches the generation of three-dimensional (3D) models of objects defined by two-dimensional (2D) image data. In doing so, the reference of prior art discloses the features of claim 1, specifically the representing surface properties of the component as two 2D images

defined by two 2D datasets comprising a plurality of data values, is disclosed in column 2: lines 54-64. The representation of the component as a 3D computer model with a surface defined by a plurality of nodes is taught at column 1, beginning at line 36 and column 2, line 61, et seq. The defining of six features common to both the 2D images and the 3D computer model is explained at column 3, lines 35-45. The identification of coordinates common to both the 2D image data sets and the 3D computer model is taught by the determination of positional data as stated in column 4, line 64 et seq. The limitation of assigning data values between the 2D data sets and the 3D model is disclosed beginning at line 45 of column 3. Hashimoto explains the resolution of ambiguities between the data sets as claimed by 1(f) with regard to the approximations of reference point locations as explained beginning at line 64 of column 5. Lastly, the limitation of employing the 3D computer model in an analysis process to optimize component design is taught at column 7, line 61 et seq.

As for the mapping of the 2D datasets on the 3D model such that the properties (claim 2) or geometric features (claim 3) comprise similar data, Hashimoto teaches that the 2D data is used to generate corresponding 3D data which forms the basis of the 3D object or component model. Then using this information, the properties and geometric features of the object or component are reflected. See col. 4:ll.64 et seq.- col.8:ll.28.

The limitation of claim 4 wherein the 2D data sets comprise data derived from the 2D image of the component is taught by the prior art at column 1, lines 49-52, where it is stated that the 2D data for the object is determined from the 2D image figure.

As with the data types as claimed by instant claims 5-8, Hashimoto anticipates the methodology of the instant invention. In doing so, the reference generically teaches using data sets that are comprised of characteristics of the object being modeled. Therefore, the contents of the data sets would necessarily be dependent upon and specific to the characteristics of the objects being modeled. In other words, once the system of the reference is implemented to model a specific object, the data sets would inherently include any characteristics necessary and/or desirable to model that object or component. The implementation of specific object/component data is relevant to the environment within which the object or component is manufactured or produced. Thus, the use of data with regard to a coating or measurement

is specific to the situation in which the object is being developed. The natural consequence of the model type used provides the characteristics for its pertinent data set.

With regard to the use of a computer program product and a computer system, claims 14 and 15 respectively, Hashimoto teaches the techniques of the patent to be used by hardware and/or software systems.

***Claim Rejections - 35 USC § 103***

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 6,434,278 B1 to Hashimoto as applied to claim 1 above, and further in view of US Patent Application Publication No. US 2002/0088600 A1 to Beeck et al.

The teachings of the patented invention to Hashimoto in reference to instant claim 1 are taught as stated heretofore.

Hashimoto teaches the instant invention substantially as claimed except for the limitation that the object or component being modeled is a turbine stator segment or turbine blade. In this regard, Beeck et al. teaches using a 3D model to design/develop a turbine blade mold. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used the method taught by Hashimoto to design the turbine blade of Beeck et al. because the method of Hashimoto teaches modeling any object and Beeck et al. teaches that turbine blades are 3D objects that can be modeled. Alternatively, it would have been obvious to modify the invention of Beeck et al. to utilize the optimized methodology of Hashimoto because the increased benefit of accuracy and efficiency are taught.

13. For the reasons stated above, the limitations of the claimed invention are taught by the prior arts of record; thereby, rendering the instant claims unpatentable.

**Conclusion**

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Cross et al. USPN 6,969,836 B2

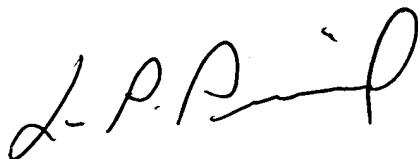
Chou et al. Patent Publication No US 2004/0227766 A1

Vasey-Glandon et al. USPN 6,341,261 B1

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sheela Rao whose telephone number is (571) 272-3751. The examiner can normally be reached Monday - Friday from 8:30 am to 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo Picard, can be reached on (571) 272-3749. The fax number for the organization where this application or any proceeding papers is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. It should be noted that status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should any questions arise regarding access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Sheela S. Rao  
June 13, 2006

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